

INTERNATIONAL SEARCH REPORT

International application No

/JP2005/009588

A. CLASSIFICATION OF SUBJECT MATTER
G05B19/418 H05K13/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
G05B H05K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 378 200 B1 (LIM KA TIEK ET AL) 30 April 2002 (2002-04-30)	13
Y	the whole document	1,9-12, 19,22, 24,25
Y	----- US 5 177 688 A (RENTSCHLER ET AL) 5 January 1993 (1993-01-05) column 3, line 24 - column 9, line 12	1,9-12, 24,25
Y	----- US 6 104 965 A (LIM ET AL) 15 August 2000 (2000-08-15) the whole document	1,9-12, 24,25
	----- -/-	

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

16 February 2006

Date of mailing of the international search report

28.02.2006

Name and mailing address of the ISA/

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ational application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	PATENT ABSTRACTS OF JAPAN vol. 016, no. 521 (E-1285), 27 October 1992 (1992-10-27) & JP 04 196296 A (MATSUSHITA ELECTRIC IND CO LTD), 16 July 1992 (1992-07-16) abstract -----	1
A	EP 0 400 624 A (KABUSHIKI KAISHA TOSHIBA) 5 December 1990 (1990-12-05) abstract -----	4
Y	US 2002/143423 A1 (HUBER ROBERT ET AL) 3 October 2002 (2002-10-03) the whole document -----	19
Y	US 5 584 118 A (FURUKAWA ET AL) 17 December 1996 (1996-12-17) the whole document -----	22
A	EP 0 987 613 A (BASF AKTIENGESELLSCHAFT) 22 March 2000 (2000-03-22) the whole document -----	13-23
A	US 4 580 207 A (ARAI ET AL) 1 April 1986 (1986-04-01) the whole document -----	13-23

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national application No.
PCT/JP2005/009588

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-12, 24, 25

Method, apparatus and program for calculating the schedule of a component mounting process, so that the manufacturing line is balanced.

2. claims: 13-23

Method to monitor the actual process of component mounting, and rectification of the component mounting schedule if necessary.

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Information on patent family members

International application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6378200	B1	30-04-2002	NONE
US 5177688	A	05-01-1993	NONE
US 6104965	A	15-08-2000	NONE
JP 04196296	A	16-07-1992	NONE
EP 0400624	A	05-12-1990	DE 69013573 D1 01-12-1994 DE 69013573 T2 16-03-1995 US 5055755 A 08-10-1991
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EP 0987613	A	22-03-2000	AT 229662 T 15-12-2002 CN 1253851 A 24-05-2000 DE 19842482 A1 23-03-2000 JP 2000284809 A 13-10-2000
US 4580207	A	01-04-1986	DE 3146342 A1 16-06-1982 JP 1420563 C 14-01-1988 JP 57089106 A 03-06-1982 JP 62025202 B 02-06-1987